**Math 7 - Transformations**

**Name: \_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_**

**Learning Intention:** Recognize and perform transformation of images.

**Review:**

An image can relate to its original image by a

**Reflection**

o A shape is reflected in a line of reflection. This line

could be horizontal or vertical (or even on an angle diagonal)

o The reflected shape is congruent (exactly the same) to the original.

**Translation**

o A shape is moved to the right or left and up or down

or some combination.

o The transformed shape is congruent (exactly the same) and has the

same orientation to the original.

**Rotation**

o A shape is rotated around a point. This could be

clockwise or counterclockwise at 90o, 180o, 270o.

o The rotated shape is congruent to the original.

o Don’t forget the Point of Rotation.

**Activity:**

1. Look at the image below.



What transformation has to occur to move the shaded shape to the following position:

B:

A:

D:

1. Draw the image of Quintin’s super duper snow sled and connect the points a A (0,0)

B (0,-1) C(-2,0) D (-3,-1)



If Quintin’s sled spun out of control and rotated 900 around the origin (0,0) draw the image of where Quintin’s sled is after the rotation (hint: you may need a scrap of paper to trace and rotate)

1. JF was looking for a corner store to buy some jaw breakers. He saw an arrow on a sign that led the way. Draw the coordinates and connect the dots to form an arrow (this one is tricky because of the decimals!!! Work with your partner to figure it out) A (-1,-1) B (-2,0) C(-3,-1) D(-2.5, -1) E (-2.5, 4) F(-1.5, 4) G (-1.5, -1)



Unfortunately, the arrow was pointed in the wrong direction and it took JF over three hours to find the right way to the corner store!!! What a waste of precious time!!! But JF, being a pro-active and responsible guy, decided to place the arrow on the correct road so others wouldn’t get lost in the future. He translated the arrow 3 units to the right and 2 units up. Draw the translated arrow on the same graph and label with PRIME notation.

1. Payton loves ice cream bars! Her mom gave her one on the weekend and before ripping off the wrapper and stuffing into her mouth, she thought she would admire it in the mirror for a moment. Draw the coordinates of Payton’s ice cream bar in front of the mirror at B (1,1) A(3,1) R (3,4) S (1,4)



Now draw the reflection of Payton’s ice cream bar is the mirror was on the y axis (reflect across y axis). Please remember to label the reflection with PRIME notation

1. Now draw your own simple image on the grid below. Write a question where someone has to translate (slide), rotate( turn) or reflect (mirror image) you image. Please make the image fairly simple (ie. You can choose the coordinate for a square, rectangle or triangle and say it is a cool object like a chocolate bar, garden or sail boat). When you are finished your image make copies of it on the next page. You will be working with a partner and you will change papers and try each other’s question☺



Your question:

Partner #1’s Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Please give your partner this sheet you have prepared so they can try your question. When they are done, please mark their answer. If they need help, this is your chance to be the teacher and explain how to solve it.

When your teacher tells you to get a new partner you can change papers and do the activity again with someone new

Partner #2’s Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Remember to cover the answer above and try it on your own. This will help you study for your transformations unit test.